8.0 Appendices

Table A1—Nationally Ranked Science and Engineering Academic and Research Programs

Inst.	Rank	out of	Academic Program	Source of Ranking Information	Year	Undergrad	Masters	Doctoral	Comments
ODU	1	?	Engineering Management	National Engineering Management Assoc.	2001, 2002		X	X	
ODU	14	?	Ocean Sciences	National Science Foundation research funding	2001	X	X	X	
ODU	17	?	Oceanography (graduate research programs)	National Research Council Rankings	1993		X	X	
ODU	28	212	Physical Therapy	U.S. News & World Report	2000			X	
UVA	4	87	Anatomy	NIH expenditure ranking	2001			X	
UVA	4	?	Cell Biology	NIH expenditure ranking	2001			X	
UVA	4	99	Microbiology	NIH expenditure ranking	2001			X	
UVA	5	99	Physiology	NIH expenditure ranking	2001			X	
UVA	9	?	Astrophysics	Princeton Review's Gourman Report	1997			X	
UVA	9	140	Physiology Department	National Research Council Rankings	1995			X	
UVA	13	23	Biomedical Engineering (graduate)	U.S. News and World Report	2002		X	X	
UVA	15	?	Astronomy Department	Princeton Review's Gourman Report	1997			X	
UVA	15	18	Biomedical Engineering (undergraduate)	U.S. News and World Report	2001	X			
UVA	17	33	Astrophysics and Astronomy	National Research Council Rankings	1995			X	
UVA	17	90	Surgery	NIH expenditure ranking	2001			X	
UVA	20	37	Otolaryngology	NIH expenditure ranking	2001			X	
UVA	20	185	Psychology Department	National Research Council Rankings	1995			X	
UVA	21	38	Biomedical Engineering	National Research Council Rankings	1995			X	
UVA	23	65	Materials Science	National Research Council Rankings	1995			X	
UVA	24	127	Pharmacology	National Research Council Rankings	1995			X	
UVA	26	?	Internal Medicine	U.S. News and World Report	2001			X	
UVA	27	70	Computer Science	U.S. News and World Report	2002			X	
UVA	27	52	Medical School/Primary Care	U.S. News and World Report	2002			X	
UVA	27	50	Medical School/Research	U.S. News and World Report	2002			X	
UVA	29	122	School of Medicine	NIH expenditure ranking	2001			X	
UVA	30	93	Chemical Engineering	National Research Council Rankings	1995			X	

Inst.	Rank	out of	Academic Program	Source of Ranking Information	Year	Undergrad	Masters	Doctoral	Comments
UVA	31	102	Neurosciences	National Research Council Rankings	1995			X	
UVA	23.5	69	Anthropology	National Research Council Rankings	1995			X	
VCU	14	101	Dept. of Pharmacology (School of Med.)	NIH expenditure ranking	2001			X	
VCU	32	85	Psychiatry	NIH expenditure ranking	2001			X	
VCU	32	89	Surgery	NIH expenditure ranking	2001			X	
VCU	16	?	Drug and Alcohol Abuse	U.S. News and World Report	2001			X	In 2002 USNews ranked only top 10 programs; VCU did not appear.
VCU	36	101	Microbiology	NIH expenditure ranking	2001			X	
VCU	41	81	Anatomy	NIH expenditure ranking	2001			X	
VCU	5	?	Sculpture	U.S. News and World Report					
VCU	7	?	Rehabilitation counseling	U.S. News and World Report					
VCU	19	100	Fine Arts	U.S. News and World Report	1997		X		
VCU	19	36	Pharmacy	U.S. News and World Report	1998			X	
VCU	8	?	Health Administration	U.S. News and World Report					
VCU	9	?	Nursing Administration	U.S. News and World Report					
VCU	22	42	School of Dentistry	NIH expenditure ranking	2001			X	
VCU	10	?	Nurse Anesthesia	U.S. News and World Report					
VCU	13	?	Social Work	U.S. News and World Report					
VCU	11	?	Community Health	U.S. News and World Report					
VCU	17	?	Occupational Therapy	U.S. News and World Report					
VCU	15	?	Physical Therapy	U.S. News and World Report					
VCU	34	60	School of Pharmacy	NIH expenditure ranking	2001			X	
VMI	6	12	Civil Engineering (among schools without PhD Progs.)	U.S. News and World Report	2002	X			
VMI	17	19	Mechanical Engineering (among " ")	U.S. News and World Report	2002	X			
VMI	26	89	Engineering (among " ")	U.S. News and World Report	2002	X			

Inst.	Rank	out of	Academic Program	Source of Ranking Information	Year	Undergrad	Masters	Doctoral	Comments
VPI	5	?	Civil Engineering	National Science Foundation expenditure ranking	2000	X	X		
VPI	5	?	Polymer Chemistry	U.S. News and World Report	?		X		Not confirmed; polymer not currently ranked by USNews.
VPI	7	?	Agriculture and Life Sciences	National Science Foundation expenditure ranking		X	X		
VPI	8	18	Industrial and Systems Engineering	U.S. News and World Report	2002			X	
VPI	9	10	Straitigraphy/ Sedimentology	U.S. News and World Report	1999		X		
VPI	11	20	Civil and Environmental Engineering	U.S. News and World Report	2002	X	X		This ranking among Environmental Eng. Depts; also 14th out of 23 Civil Eng. Depts.
VPI	12	19	Aerospace and Ocean Engineering	U.S. News and World Report	2002			X	
VPI	13	?	Mechanical Engineering	National Science Foundation expenditure ranking	2000	X	X		
VPI	14	23	Civil and Environmental Engineering	U.S. News and World Report	2002			X	This ranking among Civil Eng. Depts; also 11th out of 20 Environmental Eng. Depts.
VPI	17	?	Electrical Engineering	National Science Foundation expenditure ranking	2000	X	X		
VPI	17	?	Geophysics	Gourman Report of Undergraduate Programs (10th edition)	1997	X			
VPI	18	?	Geology	Gourman Report of Undergraduate Programs (10th edition)	1997	X			
VPI	21	23	Mechanical Engineering	U.S. News and World Report	2002			X	
VPI	23	50	College of Engineering	U.S. News and World Report	2002		X	X	
VPI	27	100	Geological Sciences	National Research Council	1995			X	
VPI	15	33	Aerospace Engineering	National Research Council	1995			X	
VPI	19.5	86	Civil Engineering	National Research Council	1995			X	
VPI	27	126	Electrical Engineering	National Research Council	1995			X	
VPI	8	37	Industrial Engineering	National Research Council	1995			X	
VPI	29.5	110	Mechanical Engineering	National Research Council	1995			X	

Inst.	Rank	out of	Academic Program	Source of Ranking Information	Year	Undergrad	Masters	Doctoral	Comments

Table A2—Noteworthy Academic and Research Programs

Inst.	Academic Program	Comments	Undergrad	Masters	Doctoral
CWM	Materials Processing Research Program	Multi-disciplinary and multi-institutional research initiatives in experimental and computational analyses of materials. Major grants include ONR Center for Piezoelectrics by Design, ONR High Brightness Electron Source Program, and CIT Center for Plasma and Photon Processing.			X
GMU	Biosciences and Biodefense	Emphasis on interdisiplinary and computationally-intensive approaches; new Center for Biodefence attracting attention for research and training on security posed by bioterrorism; multi-university collaborations.		X	
GMU	Computational Sciences and Informatics	Nationally recognized, first and most forward-looking interdisciplinary program of its kind; computational science focuses on Earth observing data, global climate models, bioinformatics and various simulations. Multi-university collaborations.		X	X
GMU	Secure Information Systems	One of seven federally designated Centers of Excellence, academic and certificate programs, multi-university collaborations.	X	X	X
JMU	Information Security program	Recognized and utilized by NSA, FBI, CIA, Industry. One of NSA's original Centers of Excellence for training information security specialists. Masters program is prototype for distance education. Faculty conduct much of the current national research on information security.	X	X	X
NSU	Center for Materials Research	NASA and DOE Center funding; NSF Center of Excellence designation; crystal growth capabilities duplicated at fewer than ten sites worldwide; laser spectroscopy capabilities.			
NSU	DNIMAS (Dozoretz National Institute for Minorities in Applied Sciences)	Rigorous honors program for undergraduates in sciences. Advanced degrees earned by 40% of graduates.	X		
ODU	Computer Science	Digital Library Program on Computer Science is described by one reviewer as one of the most successful research programs on interoperability in the world. High Performance Computing Cener is one of 37 challenge grant programs, supported by NSF and DOE.		X	X
ODU	Nuclear Physics	Self-described as among the nation's top programs. A young group on the rise. (Does not feature in U.S. News 2002 ranking of 19 elementary particle/nuclear physics programs.)			X

Inst.	Academic Program	Comments	Undergrad	Masters	Doctoral
ODU	Engineering	Modeling & simulation prog.has achieved international recognition. Aerospace was selected for focus to become one of the top fields of expertise at ODU. Advanced Engineering Environment Center leads a consortium of top universities, including the MIT Media Lab, Cornell, and Syracuse and is among the best in the nation in areas such as bionanotechnology, smart vehicle technology and autonomic computing. National prominence in laser research and bioelectrics.	X	X	X
VIMS	Aquatic Animal Health	International leader in research & diagnostics of emerging aquatic diseases; recognized by Office International de Epizooties (OIE)			X
VIMS	Environmental Chemistry	Groundbreaking work, expertise sought after by many federal agencies, Presidential Green Award for collaborating industrial partners.			X
VPI	Forestry	No national rankings available, but Tech's program is considered to be at least in the top 5 programs, perhaps top 2 or 3.			
VSU	Agricultural research	USDA Center of Excellence for Plan and Water Quality;	X	X	
VSU	Physics research	Recognized for programs in the study of magentic properties of materials, including nanostructure iron alloys, and rare earth magnetism.	X		

Table A3--Other areas for multi-university collaboration

Life Sciences

* Virginia Life Sciences Initiative: UVA, VPI, VCU, GMU
* VCU new focus in life sciences
  (note: VCU ranked 121/137 in biological sciences in US News; UVA was 36/137.)

Bioinformatics

* Major initiative at VPI: Virginia Bioinformatics Institute
* Collaborative CTRF project: UVA, VPI, VCU, GMU
  plus three additional CTRF projects involving bioinformatics

Nanotechnology and Materials Science

* Several institutions have programs: CWM, JLab, UVA, NSU
- Some applications are in semiconductors, not a vibrant market at present
* Other applications in advanced materials for military use, nanomethods for biomedical use

Neurosciences

* Rumored to be an upcoming federal initiative
* UVA was #31 in NRC ranking of 1995, but this is very outdated; no current ranks available